

8. *On some South African Ichneumonidae in the Collection of the South African Museum.*—By CLAUDE MORLEY, F.Z.S., F.E.S., Memb. Soc. Entom. de France, etc. Part III.

RECENT consignments of Parasitic Hymenoptera have enabled me again to extend our still limited knowledge of the species occurring in Southern Africa, and to supplement my former studies upon them, contained in the Revision of Ichneumonidae and in these Annals, Vol. XV, pp. 353–400, and Vol. XVII, pp. 191–229. As before, a large proportion of the species enumerated is from the interesting district of Zululand, where the insect fauna of the east-central regions merges with that of the more southern parts of the Continent. The lesser proportion of new kinds in the present paper may, I think, be taken as indicative that our knowledge is at length approaching, though still far distant from, perfection. The European Continent and America to the north of Mexico are the only parts of the globe of which we yet possess anything like full accounts of Ichneumonidae : a first volume of the Indian species was published in 1913, and a second awaits nothing but official sanction for its appearance. South Africa may now be regarded as the next forward in this respect, for nothing but isolated accounts have yet been put forth by other countries. The Swedes, however, who have given us a good lead since Holmgren began to publish in 1855, are now contributing much literature on the group. The types of the new species mentioned in the following list are in the South African Museum.

CLASSIFIED CATALOGUE.

ICHNEUMONIDAE.

Ichneumoninae.

JOPPIDES.

EPIJOPPA, Morl.
rubricata, Morl.
fumosa, Morl.
tricolor, n. sp.

ISCHNOJOPPA, Kriech.
luteolator, Fab.

XANTHOJOPPA, Cam.
lutea, Cam.
inermis, Morl.

COELICHNEUMON, Thoms.
sublunifer, Morl.
geminifer, Morl.
globulifer, Morl.
sulcifer, Morl.

ICHNEUMONIDES.

OXYPYGINI.

MELANICHNEUMON, Thoms.

rufator, Morl.

LAGENESTA, Cam.

uplicator, Morl.*sinifer*, Morl.

LEPTOTHECUS, Cam.

alutacefer, Morl.

HOLCICHNEUMON, Cam.

vindex, n. sp.

BARICHNEUMON, Thoms.

basiglyptus, Kriech.

ICHNEUMON, Linn.

aethiopicus, Cam.*leppani*, Cam.

AMBLYPYGINI.

AMBLYTELES, Wesm.

schonlandi, Cam.

CHARITOJOPPA, Cam.

thoracica, Morl.

LISTRODROMINI.

ANISOBAS, Wesm.

ruficeps, Cam.

NEOTYPUS, Forst.

gravidus, sp. n.

PLATYURINI.

CTENOCHARES, Forst.

blandita, Tosq.*testacea*, Szepl.*striolata*, Cam.

PLATYLABUS, Wesm.

testaceus, Morl.*vallatus*, Morl.*hemierythraeus*, Morl.*opaculus*, Thoms.*ceta*, Morl.*phorcys*, Morl.

Cryptinae.

PHYGADEUONIDES.

HEMITELINI.

LIENELLA, Cam.

annulata, Cam.*canaliculata*, Cam.*quadriannulata*, Cam.

CAENOPIMPLA, Cam.

crassa, sp. n.

HEMITELES, Grav.

nigrescens, nom. n.*pulchrator*, nom. n.*testaceator*, nom. n.*tunisiae*, nom. n.*tisisthenes*, sp. n.*aestivalis*, Grav.*laevigatus*, Ratz.

CRYPTIDES.

MESOSTENINI.

GORYPHUS, Holmgr.

scutellator, sp. n.*testaceus*, Morl.*caviclepeus*, sp. n.*corniger*, Morl.*lineiger*, sp. n.*visulcatus*, Morl.*cinctitibia*, Morl.*parvidens*, Cam.*aello*, Morl.

MESOSTENUS, Grav.

denticlypeus, Morl.*edenticlypeus*, sp. n.*rhodesiae*, Cam.*albilabris*, Cam.*octans*, Morl.

MESOSTENINI—continued.

MESOSTENUS, Grav.

leptonotus, Cam.
oneili, Cam.
albipalpis, Cam.
protervus, Tosq.
agnatus, Tosq.
festivus, Tosq.
vulpio, Tosq.

ensator, Thunb.

testacellus, sp. n.

STENABAEUS, Thoms.

laevifrons, Cam.

lightfooti, Cam.

LISTROGNATHUS, Tschek.

bifrontalis, sp. n.

CRYPTINI.

ETHA, Cam.

castanea, Morl.

STICTOCRYPTUS, Cam.

petiolaris, Morl.

testaceus, Cam.

CRYPTUS, Fab.

perturbator, Schulz.

rufoplagiatus, Cam.

Pimplinae.

PIMPLIDES.

PIMPLINI.

HEMIPIMPLA, Sauss.

bifasciata, Morl.

calliptera, Sauss.

superba, Szepl.

PIMPLA, Fab.

spiloaspis, Cam.

crocata, Tosq.

melanospila, Cam.

THERONIA, Holmgr.

melanocera, Holmgr.

GLYPTINI.

SJOSTEDTIELLA, Szepl.

vittinotum, sp. n.

erythrostoma, sp. n.

nigritornata, Cam.

unirufa, sp. n.

LISSONOTIDES.

SYZEUCTUS, Forst.

fulvipalpis, Cam.

annulatus, Brulle.

spilostoma, Cam.

interstitialis, Cam.

bisannulatus, sp. n.

ASPHRAGIS, Forst.

flavidorbitalis, Cam.

rufipes, Cam.

straminea, sp. n.

LISSONOTA, Grav.

deversor, Grav.

ACAENITIDES.

ACRONUS, Tosq.

enderleini, Schulz.

saliiformis, Enderl.

CTENOTOMA, Cam.

ruficeps, Cam.

PARACOLLYRIA, Cam.

flavipennis, Cam.

ruficollis, Cam.

PHAENOLOBUS, Forst.

flavus, Rom.

BANCHIDES.

TEGONA, Morl.

| *discreta*, Morl.

TRYPHONINAE.

METOPIIDES.

METOPIUS, Panz.

| *discolor*, Tosq.

TRYPHONIDES.

PERILISSUS, Holmgr.

semifulvator, n. sp.

ERROMENUS, Holmgr.

fumipennis, sp. n.

PRIONOPODA, Holmgr.

testaceoides, sp. n.

CTENOPELMA, Holmgr.

ligulata, sp. n.

Ophioninae.

CREMASTIDES.

CREMASTUS, Grav.

annulicornis, Tosq.*geminus*, Grav.*testaceus*, Szepf.*pallidus*, Kriech.*noxiosus*, Morl.

PIMPLOMORPHA, Cam.

trilineata, Cam.

CAMPOPLEGIDES.

XANTHOCAMPOPLEX, Morl.

flavescens, Morl.

CAMPOPLEX, Grav.

erythrospilus, Cam.*crassicaput*, n. sp.

NEPIERA, Forst.

concinna, Holmgr.

ANGITIA, Holmgr.

apostata, Grav.

RHIMPHOCTONA, Forst.

bolibasis, sp. n.

ANOMALIDES.

TRICHOMMA, Wesm.

| *albicoxa*, Morl.

OPHIONIDES.

NOTOTRACHYS, Marsh.

nirvana, sp. n.*bidentata*, Cam.*callicrates*, nom. n.*ferruginea*, Cam.*flavomaculata*, Cam.*foliator*, Fab.*nigricans*, Cam.*rufidens*, Cam.*rufipes*, Cam.*tisisthenes*, nom. n.

EURYOPHION, Cam.

superbus, Morl.*nebulifer*, n. sp.

PLEURONEUROPHION, Ashm.

pruinosis, Cam.

HENICOSPILUS, Steph.

bisimpressus, Brulle.*rubens*, Tosq.

OPHION, Fab.

discinervis, sp. n.

EURYCAMPTUS, Morl.

latipennis, Kirb.

PANISCIDES.

PANISCUS, Schr.
testaceus, Grav.

aethiopicus, Szepl.
melanocotis, Holmgr.

MESOCHORIDES.

MESOCHORUS, Grav.

nox, sp. n.

FAMILY ICHNEUMONIDAE.

Subfamily Ichneumoninae.

TRIBE JOPPIDES.

EPIJOPPA, Morl.

Revis. Ichn., iv, 1915, p. 49.

Epijoppa rubricata, Morl.

Loc. cit., p. 53.

♂. Very similar, especially in its structure of face and clypeus, to the ♀ but with internal orbits broadly white from clypeal base to level with apical ocellus; anus, base of ventral plica and centre of mandibles, also white. Metathorax somewhat closely punctate with the laterally carinate areola smooth and glittering, and the external areae striate to the obsolete costulae. Hind legs infuscate, with griseous tibial pilosity. Wings slightly and evenly flavescent throughout. Length, 11 mm.

M'fongosi in Zululand during December 1910, captured by Mr. W. E. Jones. The species of this genus range throughout the warmer regions of the Continent.

Epijoppa fumosa, Morl.

Loc. cit., p. 51.

A large ♀ from Salisbury in September 1913. This species is now known from Nyassaland, Rhodesia, and Mashonaland.

ISCHNOJOPPA, Kriech.

Ent. Nachr., xxiv, 1893, p. 32.

I. luteolator, Fab.

E.S. Suppl., 1798, p. 222.

Found by Dr. L. Péringuey at Knysna in Cape Colony during October 1916.

Epijoppa tricolor, sp. nov.

A stout red species with the mandibular base, frontal and temporal orbits, small callosity before radices, postscutellum, apical margin of all the segments except third and centre of second, coxae except centre of hind ones beneath, anterior tibiae externally and apices of their femora, pure white; tegulae, fourth and following segments, venter, mesosternum, stigma, hind trochanters and centre of their coxae, black. Metathorax distinctly punctate, with areola strongly transverse and costulae conspicuous; face not sulcate; clypeal tooth small but acute. Length, 10 mm. Female only.

This species agrees with the Nigerian *E. rubricata*, Morl., in its hyaline wings, rufescent mesonotum, antennae, and legs; though differing in the white postscutellum, red metathorax, flagellar apices and abdominal base, as well as in the above sculpture. The type occurred at Bulawayo in Southern Rhodesia during May 1917, to R. W. Tucker.

TRIBE ICHNEUMONIDES.

Subtribe OXYPYGINI.

Gen. MELANICHNEUMON, Thoms.

Opusc. Entom., xviii, 1893, p. 1954.

Melanichneumon rufator, Morl.

Ann. S. Afr. Mus., xv, 1916, p. 363.

♂. Differs from the ♀ in having the antennae setaceous and discally infusate, with the flagellar joints subset and the six central ones, like the palpi, front coxae, line before and callosity below radices, the sides of scutellum basally, and whole anus, white. Length, 7 mm. This androtype was captured during March 1917, by W. E. Jones, at M'fongosi, Zululand.

Gen. HOLCICHNEUMON, Cam.

Ann. Mus. Transvaal, ii, 1911, p. 175.

Holcichneumon vindex, sp. nov.

A dull black and somewhat stout species with the scutellum, mesonotum, and propleurae sanguineous-red; head, antennae, mesosternum, metanotum, segmental apices and coxae, partly white.

Head discally subglobose, buccate behind and below the eyes; palpi mandibular base, external and frontal orbits, with whole face and clypeus except a longitudinal line on former, white; clypeus deplanate, apically truncate and basally not discreted. Antennae setigerous and apically subserrate, with seven central joints and a dot beneath scape, white. Thorax stout and not closely punctate, with notauli short; mesonotum and upper part of propleurae subnitidulous and bright red; two small lines at the wanting sternauli, a triangle on metanotum consisting of a line through areola and apically traversing the wanting apophyses, and a dot before the linear spiracles, white; areola subparallel-sided with no basal area, emitting distinct costulae from its centre. Scutellum bright red, strongly deplanate and nitidulous with sparse punctures, and laterally strongly carinate except at its extreme apex, which is, like the postscutellum, white. Abdomen fusiform and dull, with the two or three basal segments aciculate; anus, apices of sixth segment broadly, of fifth very narrowly, and of the three basal ones more broadly at their sides, white; postpetiole abruptly explanate, centrally finely aciculate, with a few lateral punctures. Legs black and not stout; anterior internally, with their coxae beneath mainly, and a spot above hind ones, white. Wings very slightly infumate; stigma, tegulae and nervures black; basal nervure continuous; areolet triangular, coalescent above and emitting the bifenestrate recurrent nervure from its centre. Length, 14 mm. Male only.

I do not know *Camarotella madagascarensis*, Szepi., Bull. Mus. Paris, ix, 1904, p. 336, which also possesses margined scutellum. The type was found at M'fongosi in Zululand during March 1917, by W. E. Jones.

Gen. BARICHNEUMON, Thoms.

Opusc. Entom., xviii, 1893, p. 1959.

Barichneumon basiglyptus, Kriech.

Ichneumon basiglyptus, Kriech., Entom. Nachr., 1890, p. 294, ♀; Berth., Ann. Soc. Entom. France, 1895, p. 557, ♀♂; *Barichneumon basiglyptus*, Morl., Ichn. Brit., i, 1903, p. 91, ♀♂.

A male has been found during 1914 by E. Fry at Eldoret in British East Africa, doubtless imported with some Microlepidoptera from Europe, where it is known from Britain to Savoy.

Gen. ICHNEUMON, Linn.

Syst. Nat., ed. 10, i, 1758, pp. 343 and 360.

Ichneumon aethiopicus, Cam.

Stenichneumon? *aethiopicus*, Cam. Records Albany Mus., i, 1905,
p. 229, ♂.

A homotype, sent me by Dr. L. Péringuey, and taken at Kimberley by Mr. J. H. Power during 1912, is a genuine species of *Ichneumon*, *sensu* Thomson; another ♂ was found by R. M. Lightfoot at 4500 feet during November 1916 at Great Winterhoek, near Tulbagh, in the Cape Province.

Ichneumon leppani, Cam.

Lib. cit., p. 226, ♀.

The type of this species, simply labelled "Miss Leppan, 1897," is closely allied to *Ichneumon vulneratorius*, Zett. (Ins. Lapponica, p. 364), which I have recently examined from the Kola Peninsula of Northern Russia.

Subtribe AMBLYPYGINI.

Gen. AMBLYTELES, Wesm.

Act. Ac. Bruxelles, xviii, 1845.

Amblyteles schonlandi, Cam.

Ichneumon schonlandi, Cam. Records Albany Mus., i, 1905, p. 227, ♂.

The type is certainly an *Amblyteles*, closely allied to *A. glaucatorius*, Fab.

Gen. CHARITOJOPPA, Cam.

Ann. Nat. Hist., vii, 1901, p. 383.

Charitojoppa thoracica, Morl.

Ann. S. Afr. Mus., xvii, 1917, p. 200, ♂.

♀. This sex differs slightly from the ♂ in having the head black, with the occiput, vertex, and frons to juxta-scorbal orbits red (an unusual combination of colour) or entirely red; not stramineous-marked. Antennae black, hardly explanate before their very strongly attenuate apices; and five central joints white above. Pro- and meta-thorax concolorous with abdomen, but not pale-marked; metapleuræ rarely red; costulae obsolete. Scutellum not apically

paler. Abdomen, like that of the ♂, cyaneous with apices of all the segments, but third and fourth, stramineous. Anterior legs not white-marked, their tibiae indefinitely rufescent. Length, 13-14 mm.

Found in the same locality as the ♂, during March and April 1917, by W. E. Jones.

Subtribe LISTRODROMINI.

Gen. ANISOBAS, Wesm.

Nouv. Mem. Ac. Bruxelles, 1844, p. 111.

Syn. : *Spanophatnus*, Cam.

Records Albany Mus., i, 1905, p. 230.

Anisobas ruficeps, Cam.

Spanophatnus ruficeps, Cam. Records Albany Mus., i, 1905, p. 231, ♂.

An examination of the type, whose tarsal claws are not pectinate, establishes the synonymy of these genera.

Gen. NEOTYPUS, Forst.

Verh. pr. Rheinl., 1868, p. 194.

Neotypus gravidus, sp. nov.

♀. A not unusually short species, convex, bright brick-red, with palpi, anus, flagellar band and anterior legs internally, alone white; the head mainly, abdomen broadly in the centre and legs except basally, black. Head as broad as thorax and posteriorly as broad as the eyes; occiput shining and somewhat deeply punctate; frons smooth with its base alone punctate, its immaculate orbits elevated but not higher than eyes; face deplanate and indefinitely red, closely and evenly punctate, continuous with the stout and rufescent clypeus; cheeks elongate and buccate, labrum exserted; mandibles not stout, jowls rufescent. Antennae elongate and slender, centrally white-banded and apically strongly attenuate. Thorax very stout, but shorter than abdomen, deeply and closely punctate, red with only frenum and petiolar area nigriscent; notauli wanting; petiolar area deeply impressed and occupying one-third of metanotum; all other areae wanting; lateral carinae weak, spiracles large and linear; apophyses wanting. Scutellum obsoletely punctate, strongly nitidu-

lous and margined throughout; postscutellum obsolete. Abdomen elongate-ovate and black, with anus from base of fifth segment white, and the obsoletely punctate first segment entirely red; second segment longitudinally punctate-striate, with very broad and deep gastroceli; terebra black and shortly exserted; hypopygium small and not produced. Legs normal, with coxae and trochanters alone red; all tarsal claws strongly pectinate; hind tarsi desunt. Wings neither small nor broad, hyaline with apex of the sinuate radial nervure and the sinus indefinitely infumate; stigma and nervures, radix and tegulae black; lower basal nervure postfurcal; areolet not higher than broad, laterally subcoalescent above. Length, 13 mm.

The type is labelled "Mahila R, Kapie River, May 1912 (Rhodesia Museum)."

Subtribe PLATYURINI.

Gen. CTENOCHARES, Forst.

Verh. pr. Rheinl., xxv, 1868, p. 191.

Ctenochares blandita, Tosq.

Mem. Soc. Ent. Belg., 1896, p. 72; Morl., Ann. S. Afr. Mus., 1916,
p. 370.

Taken by W. Haygarth at Durban in Natal during 1914.

Ctenochares testacea, Szepi.

Kil.-Meru Exped., 1910; Morl., Ann. S. Afr. Mus., 1916, p. 370.

Females were captured by Bell-Marley during 1915 at Howick in March and at Stella Bush in Natal.

Ctenochares striolata, Cam.

Brachycoryphus? *striolatus*, Cam. Records Albany Mus., i, 1905,
p. 236, ♂.

An examination of an homotypical female, which differs only sexually from Cameron's male description, sent by Dr. L. Péringuey, convinces me that this species must be placed in *Ctenochares* and not among the *Mesostenini*, as was done by its author. The black terebra barely extends beyond the abdominal apex.

Gen. PLATYLABUS, Wesm.

Nouv. Mem. Ac. Bruxelles, xviii, 1844, p. 150.

Platylabus testaceus, Morl.

Ann. S. Afr. Mus., xvii, 1917, p. 204, ♂♀.

Two more females have been captured at M'fongosi in Zululand during April and May 1917.

Platylabus vallatus, Morl.

Ann. S. Afr. Mus., xv, 1916, p. 370, and xvii, 1917, p. 204, ♂.

♀. Differs from the ♂ mainly in its scarlet-red, in place of testaceous, coloration. Head with the occiput, clypeus, cheeks, centre of frons and of face red. Antennae filiform, and subcompresso-dilated before their attenuate apices; red with the fifth to seventh joints, and their apices (beyond the nine-jointed white band) black. Mesonotum with three indefinite black vittae, its disc not stramineous-marked; areola subcircular and apically truncate. Abdomen elongate-fusiform and, like the legs, unicolorous red. Length, 11 mm.

M'fongosi in Zululand during May 1917; and Cape Town in 1913.

Platylabus opaculus, Thoms.

Platylabus pedatorius, varr. 1 and 1b, Wesm., Bull. Ac. Belg., xv, pt. 1, 1848, p. 309: Mant. 72.

P. opaculus, Thoms., Ann. Soc. Ent. France, viii, 1888, p. 124; Opusc. Entom., xix, 1894, p. 2108, and xxi, 1896, p. 2044; Berth., Ann. Soc. Ent. France, lxxv, 1896, p. 322; Schm. Opusc. Ichn., iii, 1903, p. 236, ♂♀.

A female of this black and coarsely sculptured species was captured in Natal by A. Marshall during 1893. Its introduction was doubtless accidental and its establishment improbable.

Platylabus phorcys, Morl.

Loc. cit., p. 202.

A colour form of the male, with metathorax entirely black, was found with *P. ceta* above during May 1917.

Platylabus hemierythraeus, Morl.

Lib. cit., xv, 1916, p. 380.

The male differs slightly from the female in having the abdomen subparallel-sided and testaceous with only the valvulae, fifth, sixth, and

base of seventh segments black. Two males occurred at Salisbury in Southern Rhodesia during May 1917, to R. W. Tucker.

Subfamily **Cryptinae**.

TRIBE PHYGADEUONIDES.

Subtribe HEMITELINI.

Gen. LIENELLA, Cam.

Trans. S. Afr. Phil. Soc., xv, January 1905, p. 196; Cam., Records Albany Mus., i, April 1905, p. 246; Cam., Ann. S. Afr. Mus., v, 1906, p. 155.

Lienella annulata, Cam.

Ann. Mus. Transvaal, ii, 1911, p. 179, ♂.

♂♀. Black, with no red markings; abdomen striate and wings unifasciate. Palpi, ligula, trochanters, anterior tibiae and in ♂ tarsi, base of hind tibiae and in ♂ their calcaria, radix and tegulae, white; scape at least beneath and flagellar base, ♂ mandibles and remainder of anterior legs, testaceous. First and basal half of second segments coriaceous-striate, ♀ also with basal half of two following segments striate and remainder smooth; gastrocoeli large and nitidulous; second and third ♀ segments centrally transimpressed. Flagellum of ♂ setaceous, rather shorter than body and 23-jointed; of ♀ filiform, basally attenuate, half length of body and 20-jointed. Wings hyaline and not narrow, with nigrescent fascia from stigma to apex of recurrent nervure, and in ♀ slightly infumate around lower basal nervure; terebra deflexed, stout and three-fourths length of basal segment. Length (5 mm., *teste* Cam.), ♂♀ 7-7½ mm.

The female is new, and was captured at Pinetown in Natal on 4th November 1916 by H. W. Bell-Marley; I have seen a male, taken by W. E. Jones, during March 1917, at M'fongosi in Zululand.

Lienella canaliculata, Cam.

Ann. S. Afr. Mus., v, 1906, p. 155, ♂.

Two males from M'fongosi, in Zululand, during March and April were taken by W. E. Jones.

Lienella quadriannulata, Cam.

Ann. S. Afr. Mus., v, 1906, p. 157, ♀.

The peculiar striate sculpture and elongate pilosity render this species distinct. The colour of both body and wings is variable; I have seen a female, captured by J. C. Swierstra on 12th November 1903 at Fountain Grove in the Pretoria district, with only the mandibular apices, part of coxae, of hind femora and of their tibiae and their tarsi, and the third and fourth segments black; the alar fascia confined to base of radial and apex of discoidal cells, with no infumation at the lower basal nervure as in the type. The second and third segments are centrally transimpressed.

Gen. CAENOPIMPLA, Cam.

Mem. Manchester Phil. Soc., 1900, p. 99.

Acanthoprymnus, Cam., Entomologist, 1905, p. 249.

Camptolynx, Cam., Berl. Ent. Zeit., lv, 1910, p. 252.

Caenopimpla crassa, sp. nov.

♂. A dull, rich red species with black markings and the wings slightly infumate with a black subapical fascia. Head black, coarsely and irregularly reticulate; face and clypeus discreted and closely punctate with apex of latter truncate, margined and centrally foveate; mandibles weak, fulvous and nearly smooth; palpi pale testaceous. Antennal scape and first flagellar joint red (reliquae desunt). Thorax stout, broad, shining and punctate-transstriae, with only prothorax apically and metasternum black; notauli and a central mesonotal sulcus deeply impressed; sternauli deep and half mesopleural length; metathorax with entire and very strong areae, but petiolar not discreted; basal area and areola broader than long, with costulae of latter slightly behind its centre; lateral carinae weak, spiracles circular. Scutellum subconvex, deeply and confluent punctate, not laterally margined, with its basal fovea broad and sex-carinate; postscutellum obsolete. Abdomen elongate-ovate, short and broader than thorax; second and third segments very coarsely and longitudinally punctate-striate, centrally deeply transimpressed and, except apically, black; apex of third truncate and white, with acute con-

colourous lateral spines; remaining segments, obsolete and concealed beneath third, nigrescent, with membrane and valvulae whitish; basal segment stout, broad and quadricarinate, with its central sulcus deep and stoutly transstriate. Legs slender and not elongate; testaceous with anterior coxae and trochanters, hind tibiae and tarsi, nigrescent; hind coxae and femora black, with basal third of their tibiae pure white. Tegulae and base of the black stigma very pale testaceous; lower basal nervure antefurcal and sub-infumate; nigrescent fascia extending from base of radial nervure and apex of stigma to anal nervure and slightly beyond the bifenestrate recurrent; nervellus elongately antefurcal and intercepted at its lower fourth. Length, 7 mm. ♂ only.

The type was found during February 1917, at M'fongosi in Zulu land, by W. E. Jones. It is very similar to the common Bengalese *C. striata* though stouter, with the whole sculpture coarser and meta-thoracic areae more definite.

Gen. HEMITELES, Grav.

Ichn. Europ., ii, 1829, p. 781.

Fourteen species still stand in this genus among the African fauna, though some of them probably belong to allied genera. The following rectifications are requisite:—*H. nigrescens*, Morl., nom. nov. = *H. nigricans*, Burgst., Tunis. Hym., 1913, p. 24, ♀ (*nec* Prov. 1882); *H. pulchrator*, Morl., nom. nov. = *H. pulcherrimus*, Szepl., Kil.-Meru Exped., 1910, p. 73 (*nec* Cam. 1904); *H. testaceator*, Morl., nom. nov. = *H. testaceus*, Szepl., Kil.-Meru Exped., 1910, p. 74 (*nec* Szepl., Leiden Mus., 1908); *H. tunisiae*, Morl., nom. nov. = *H. elongatus*, Burgst., Tunis. Hym., 1913, p. 25 (*nec* Fonsc. 1852, *non* Ratz.).*

* It must be noted that Szepligeti's paper upon the *Ichneumonidae* of the Kilimandjaro-Meru Expedition was not published until 1910. The distribution of author's separata before that date has led to some confusion; these bear the date of printing—not of publication—"August 1907"; and it has been variously quoted as 1907 by Roman in the *Entomologisk Tidskrift* of 1910, and as 1908 in the *Zoological Record*. It must be retained as 1910. This distribution before publication is a reprehensible practice, and some of Roman's names are in danger of taking priority over those he criticises. Much of the material collected by this Expedition yet remains to be worked, though all the larger museums of Europe contain unnamed African *Ichneumonidae*; and not the least is the mass now lying in the British Museum, consisting of thousands of specimens from all parts of the Ethiopian continent.—CLAUDE MORLEY.

Hemiteles tisisthenes, sp. nov.

♂. Bright testaceous species with mandibular apices, flagellum and anus alone black; abdomen striate; alar apices infumate. Head as broad as thorax, not constricted behind the prominent eyes, dull with vertex and frons striate; face and clypeus not discreted, granulose punctate, with latter apically rounded mutic. Antennae slender, setaceous and nearly as long as body. Thorax transaciculate and dull with notauli and a central mesonotal sulcate deep and entire; sternauli broad and half mesopheural length; metathorax shining and irregularly punctate, with areae fine and entire; areola hexagonal, rather longer than broad, emitting costulae from near its base; petiolar area concave, shining and discreted, with strong basal carina; spiracles small and circular. Scutellum subconvex, coarsely punctate and only basally margined. Abdomen as long as head and thorax, not broad; basal segment gradually explanate throughout, smooth, bicarinate and apically striate; second and third large, coarsely striate throughout and not transimpressed; remainder small, shining, black and pilose, with small valvulae. Legs slender with only the hind calcaria and tarsi infusate. Wings distinctly flavescent and apically infumate, with basal nervure continuous; nervellus ante-furcal, intercepted at its lower third, through median, and stigma testaceous. Length, 7 mm. ♂ only.

Taken by W. E. Jones, during April 1917, at M'fongosi in Zululand.

Hemiteles aestivalis, Grav.

Ichn. Europ., i, 1829, p. 712, and ii, 1829, p. 805; Taschenberg, Zeits. Ges. Nat., xxv, 1865, p. 129; Thomson, Opusc. Entom., x, 1884, p. 988; Schmiedeknecht, Opusc. Ichn., xi, 1905, p. 856; Morley, Ichn. Brit., ii, 1907, p. 165, ♂♀.

An abundant European species, though its hosts are somewhat uncertain. One male, doubtless imported, was captured for the first time in Africa, at Cape Town, by R. M. Lightfoot, during 1913.

Hemiteles laevigatus, Ratz.

Ichn. d. Forst., ii, p. 128; Morley, Ichn. Brit., ii, 1907, p. 152.

One male, differing in no essential way from palaearctic examples, of this species, which has not before been noted in any part of Africa, was captured at Knysna in Cape Province during October 1916, by L. Péringuey.

TRIBE CRYPTIDES.

Subtribe MESOSTENINI.

Gen. GORYPHUS, Holmgr.

Eug. Resa. Insect., 1868, p. 398.

Goryphus scutellator, sp. nov.

♀. A dull black species with white markings, and whole thorax red. Head transverse with frons striate and centrally carinate; face and clypeus closely punctate and discreted, the latter subconvex and nearly circular, with apex broadly rounded; mandibles stout, punctate and apically equally bidentate; ligula testaceous and palpi rather darker. Antennae slender and filiform, apically sub-attenuate, with the fifth to ninth joints discally pure white. Thorax coriaceous and red, with only prothorax nigrescent beneath; notauli deep and sternauli nearly entire; metathorax reticulate-punctate, with both transcarinae weak but entire; basal area sub-quadrate, apiphyses wanting, spiracles circular. Scutellum coarsely punctate, sub-nitidulous, laterally margined to near apex, and discally elevated in centre. Abdomen evenly and very closely punctate, not red-marked; seventh, eighth, and apical fourth of the second segment pure white; basal segment smooth and shining, with disc of the postpetiole linearly depressed and punctate; terebra deflexed and fully length of first segment, with sheaths apically sub-explanate. Legs black and not white-marked with anterior indefinitely testaceous, especially beneath. Wings clear hyaline; radix and tegulae red, stigma except its whitish base and the nervures black; lower basal nervure antefurcal; areolet quadrate, not very small and not angled below, emitting the broadly unifenestrate recurrent from very slightly beyond its centre. Length, 11 mm. ♀ only.

M'fongosi in Zululand during March 1917, W. E. Jones.

Goryphus caviclepeus, sp. nov.

♂. A shining black species with white markings, and whole thorax red. Extremely closely allied to the above female in its antefurcal lower basal nervure and coloration; but very certainly distinct in the short, broad, and not discreted but apically concave clypeus, which, with the whole face and palpi and genal marks, is pure white; scape red beneath and the flagellar band wanting; thorax shining and more distinctly punctate, with no apical metanotal transcarina;

scutellum smooth, with large punctures, deplanate, and not laterally margined; abdomen linear with apex of the finely punctate and linear basal segment, and those of all the following ones narrowly white, as also are the anterior trochanters and inner side of their femora and tibiae; areolet quadrate, small and angled below, emitting recurrent from its basal third. Length, 9 mm. ♂ only.

M'fongosi in Zululand during March 1917, W. E. Jones.

Goryphus corniger, Morl.

Ann. S. Afr. Mus., xvii, 1917, p. 206, ♀.

Taken during 1917 by J. G. Carnegie at Fort Napier in Natal. One ♀ at Bindura, Southern Rhodesia, November 1917.

Goryphus lineiger, sp. nov.

♂. A testaceous and very finely punctate species, with the stigma, nervures, head except testaceous centre of face and flavidous clypeus with most of mandibles, the flagellum except basally, abdomen except apices of first five segments, posterior and apices of front tarsi, hind calcaria and whole disc of their tibiae, black; sternum and palpi stramineous. Extremely similar to *G. testaceus* (Ann. S. Afr. Mus., xv, 1916, p. 375), and agreeing therewith in sculpture, excepting the smooth and strongly nitidulous clypeus and irregular areolet with obsolete external nervure of the present species. Length, 6 mm. ♂ only. The type occurred to W. E. Jones during April 1917 at M'fongosi in Zululand.

Goryphus bisulcatus, Morl.

Loc. cit., xv, 1916, p. 373, female.

Male. A specimen taken at Bindura in South Rhodesia during 1913, I tentatively place as the alternate sex of this Orange River species. From the female it differs in the strongly elongate body, in the black head which is white below the antennae as well as at the frontal and outer orbits, and in the discal black streak from base to apex of the metathorax. Length, 9 mm.

Goryphus cinctitibia, Morl.

Loc. cit., xvii, 1917, p. 206.

A couple of females have been found at Salisbury in Rhodesia during May 1917, by R. W. E. Tucker.

Goryphus parvidens, Cam.

Mesostenus parvidens, Cam., Ann. S. Afr. Mus., v, 1906, p. 149.

The female type in the South African Museum belongs to the present genus. Another female was found at M'fongosi in Zululand during April 1917, by W. R. Jones.

Goryphus aello, Morl.

Loc. cit., xvii, 1917, p. 208.

A small female of only $6\frac{1}{2}$ mm. was captured at Kranzkop in Natal during November 1917, by K. H. Barnard.

Gen. MESOSTENUS, Grav.

Ichn. Europ., ii, 1829, p. 750.

Essential Characters.—Body not metallic; upper basal nervure not antefurcal; metathoracic spiracles elongate, never ovate; clypeus not reflexed; alar areolet entire or sub-entire; frons not cornute, at most centrally carinate; mandibular teeth of sub-equal length, apophyses small but usually distinct; metanotum bitranscarinate. The forty species already standing under this genus in Africa are by no means homogeneous and need revision, which is very dangerous work in the absence of types. Especially with *Goryphus* are they mixed. The more southern kinds may be thus roughly tabulated:

- (4) 1. Scutellum and body testaceous, former not or finely punctate.
- (3) 2. Abdomen not black; clypeus elongately dentate . . . *denticlypeus*, Morl.
- (2) 3. Abdomen black-marked; clypeus not dentate . . . *edenticlypeus*, sp. n.
- (1) 4. Scutellum red and more or less coarsely punctate.
- (18) 5. Thorax not at all white-marked.
- (13) 6. Abdomen for the most part black.
- (10) 7. Legs black, anterior suffused with testaceous.
- (9) 8. Hind tarsi immaculate black *rhodesiae*, Cam.
- (8) 9. Hind tarsi white-banded *albilabris*, Cam.
- (7) 10. Legs mainly red.
- (12) 11. Hind tarsi white-banded *octans*, Mori.
- (11) 12. Hind tarsi not white-banded *leptonotus*, Cam.
- (6) 13. Abdomen for the most part red.
- (17) 14. Cape Colony.
- (16) 15. Frons not carinate; 4th segment white; terebra $\frac{7}{8}$ of abdomen
oneili, Cam.
- (15) 16. Frons carinate; 4th segment red; terebra $\frac{1}{3}$ of abdomen *albipalpis*, Cam.
- (14) 17. Guinea . . . *fulvaster*, Tosq.: Delagoa *protervus*, T.
- (5) 18. Pronotum and sometimes metapleural marks white.

- (20) 19. Postscutellum white *agnatus*, Tosq.
 (19) 20. Postscutellum not white.
 (22) 21. Hind legs red, only tarsi infusate *festivus*, Tosq.
 (21) 22. Hind legs nigrescent throughout *vulpio*, Tosq.

Types of both sexes show *M. elizabethae*, Cam., to be the ♀ of *M. albipalpis*, Cam.; the distinctions of the table (Ann. S. Afr. Mus., v, 1906, p. 145) are very slight and not specific. *M. mimeticus*, Cam. (Records Albany Mus., i, 1905, p. 250) = *M. oneili*, Cam. (*lib. cit.*, i, 1904, p. 143), and *M. basimacula*, Cam. (*loc. cit.*, i, 1905, p. 249), is its ♂. *M. juvenilis*, Tosq. (Mem. Soc. Ent. Belg., v, 1896, p. 214, ♀), must be called *M. ensator*, since Roman (Zool. Bidr. fr. Uppsala, i, 1912, p. 253) has proved *Ichneumon ensator*, Thunberg. (Mem. Acad. Sc. Petrograd, viii, 1822, p. 259, and ix, 1824, p. 306) to be synonymous. *M. laevifrons*, Cam., and *M. lightfooti*, Cam., of 1906, are both *Stenaraeus*. *M. parvidens*, Cam., 1906, is a *Goryphus*, and I have seen the type.

Mesostenus edenticlypeus, sp. nov.

♀. A somewhat slender, rich testaceous, dull species with the head, antennae, onychii, disc of sixth and seventh segments, and terebra deep black; face, mouth, cheeks, all the orbits broadly, flagellar band and second to base of fourth hind tarsal joints, white. Extremely like *M. denticlypeus* and differing only in having the head but little buccate and posteriorly narrower than the eyes; the clypeus simple, transverse and apically truncate; the thorax and scutellum very closely punctate and not at all shining, laterally finely margined to apex; terebra not longer than half abdomen; and the lower basal nervure is distinctly antefurcal. Length, 10–11 mm. ♀ only.

Taken at M'fongosi in Zululand by W. E. Jones during March and May 1917.

Mesostenus testacellus, sp. nov.

A shining, small and clear testaceous species, with only the mandibular apices and most of flagellum black; the latter slender and attenuate at both extremities, with a broad and somewhat flattened white band immediately before apex; frontal orbits also broadly and definitely white. Head broad with eyes very prominent and occupying its whole sides; frons obsoletely transaciculate; clypeus triangularly prominent, basally discreted and apically subtruncate. Thorax narrow with notauli extremely deep, crenulate and entire; sternauli fine, semilunar and half mesopleural length; metanotum discally

deplanate and shagreened, with no basal transcarina; apical transcarina fine, entire and nearly straight; petiolar area short and subvertical, apophyses wanting, spiracles extremely small. Scutellum deplanate, obsoletely sculptured, sub-elongate and laterally margined throughout. Abdomen narrowly fusiform and obsoletely shagreened; basal segment gradually explanate throughout and evenly aciculate; terebra straight, testaceous and two-thirds abdominal length. Legs elongate and very slender, with the stout onychii alone nigrescent. Wings narrow and flavescent-hyaline, with radix and tegulae testaceous, and stigma paler; nervure infusate with the basal continuous, discoidal and second recurrent quite straight; areolet nearly rectangular, half as broad again as high, apically pellucid, emitting the unifenestrate second recurrent from its basal third; nervellus strongly postfurcal and centrally intercepted. Length, 6-7 mm. ♀.

Found by W. E. Jones during April and May 1917 at M'fongosi in Zululand. With it he took a male, which may be tentatively regarded as belonging to this species, though differing somewhat considerably in its black head with whole face and mouth, outer orbits and entire scape stramineous; flagellum, stigma, and posterior tarsi black; shagreened postpetiole and apically obsolete areolet.

Gen. LISTROGNATHUS, Tisch.

Verh. z.-b. Ges. Wien, 1870, p. 153.

Listrognathus bifrontalis, sp. nov.

♂. A strongly elongate and very shining black species, with the metathorax dull and white-pilose; mesonotum, propleurae above, radicular region, scutellum and postscutellum, clear orange; labrum, front tibiae and their femora internally, a dot at ocellar orbits, central flagellar and hind tarsal bands broadly, metathoracic apex obliquely on either side, venter, valvulae and apices of all the segments narrowly, pure white. Frons impunctate and laterally elevated, with acute didymate spines above scrobes; scutellum strongly convex, subimpunctate and only basally margined on either side; metathorax punctate-reticulate, discally transstriate beyond the single weak basal carina, with no apophyses and small, elongate spiracles; basal segment glabrous and linear. Wings hyaline and somewhat narrow; areolet transverse and very narrow, double as broad as high, emitting the straight recurrent nervure near its apex; radius sinuate, discoidal nearly straight with no nervelet. Length, 12 mm. ♂ only.

M'fongosi in Zululand during May 1917 (W. E. Jones).

Subtribe CRYPTINI.

Gen. ETHA, Cam.

Mem. Manch. Phil. Soc., xlvii, 1903, p. 17.

Etha castanea, Morl.

Ann. S. Afr. Mus., xv, 1916, p. 381, ♀.

♂. This differs only sexually from the female, in having the abdomen nearly cylindrical, the face centrally immaculate but laterally narrowly white, as also is the frons; large white marks at the external orbits, with second to fourth hind tarsal joints and both extremities of the first concolorous; antennae slender and apically attenuate with apices of all the joints internally setigerous, the setae of the central band white. Length, 15 mm. Captured during October 1916 at Knysna in Cape Colony by Dr. L. Péringuey.

Gen. STICTOCRYPTUS, Cam.

Zeit. Hym., vii, 1907, p. 462.

Stictocryptus petiolaris, Morl.

Loc. cit., p. 380, ♀.

♂. A clear testaceous insect with the head above scape except outer and frontal orbits, the antennae, sternum, valvulae, and 5-7 segments, hind tarsi and apices of their tibiae, black; face, mouth except both extremities of mandibles, outer and frontal orbits, alone stramineous. Length, 13, with antennae, 9 mm. As ♀ in other points.

Taken on 2nd January 1917, at Willowvale, Cape Province; and at Salisbury, Rhodesia, by R. W. Tucker, May 1917.

Stictocryptus testaceus, Cam.

Zeits. Hym.-Dip., vii, 1907, p. 462.

Phaedraspis rufobalteata, Cam., Entom., xxxix, 1906, p. 197, ♀.

♂. A rufescent-testaceous insect, with black and flavous markings. Head black, with clypeus, mandibles except their apices, palpi and the facial, frontal and external orbits broadly flavidous-white; face and clypeus densely white-pubescent, closely and strongly punctate, with apex of latter fulvous and depressed; frons and vertex closely and not very strongly punctate. Antennae attenuate and very shortly pubescent, becoming sub-piceous apically beneath, with the third joint slightly longer than the fourth. Thorax strongly and

closely punctate; all the pleurae black; metanotum more closely and equally strongly, though more rugosely, punctate; apophyses wanting. Scutellum sometimes apically flavidous. Abdomen centrally finely punctate; the fourth to base of seventh segments black, anus white and petiole basally flavidous; postpetiole strongly and closely punctate. Legs rufescent with the anterior internally paler; posterior coxae beneath, apical half of hind tibiae, apices or whole of hind tarsal joints and their metatarsal base narrowly, black; remainder of hind metatarsi, and the calcaria, white. Wings somewhat short, hyaline and apically sub-infumate, with stigma and nervures black. ♀. The different coloration of the female lends it a very distinct appearance, though the structure excepting that of the metanotum is analogous. Head black with only the labrum, palpi, and centre of mandibles rufescent; antennae filiform and centrally white above; thorax black with only mesonotum, scutellum, and frenum testaceous-red; metathorax rugosely punctate with apophyses small but distinct, and petiolar area consequently defined; abdomen black with anus white, and whole of second segment with apex of the first red; terebra black and fully half length of abdomen; all the coxae, except extreme apices of posterior, black. Length, ♂♀, 11–12 mm. Both sexes vary considerably in their thoracic coloration, and the ♂ occasionally has nothing but the antennae and sub-apical segments black. I have seen a ♂ with the hind coxae immaculate testaceous, and metapleurae broadly black; in another all the coxae are entirely black with metanotum concolorous, and both its petiolar area and base of abdominal petiole flavous.

I have examined the types of both sexes of this common Indian species, which I have seen from Kashmir, Deesa, Abu, Madras, Poona, Bombay, Bengal, Assam, and as far south as Sumatra. But it is entirely new to Africa, where H. K. Munro captured a normal female at Silverton, near Pretoria, on 9th December 1915.

Gen. CRYPTUS, Fab.

Syst. Piez., 1804, p. 70.

Cryptus perturbator, Schulz.

Schulz. Spolia Hym., 1906, p. 124, ♀.

Cryptus tuberculatus, Cam., Records Albany Mus., i, 1905,
p. 308, ♀ (*nec* Grav. 1829).

♂♀. A dull, dark ferrugineous species with palpi, mandibular apices, prosternum, basal sulcus, and often apex of metathorax, terebra,

antennae except their white ♀ band, and hind tarsi except their white ♂ band, indefinitely black; ♀ with whole abdomen, except the membranous-white anus, and the hind legs, sometimes nigrescent; ♂ with the narrowly exerted labrum, the centre of mandibles, and the facial orbits very narrowly stramineous. A typical member of this genus and the only red one yet known; frons transaciculate. Length, ♂♀, 9–12 mm.

Pietersburg on 9th September 1915 (H. K. Munro); Dunbrody on 11th March 1912; and Salisbury on 14th October 1913; Cape Town in 1913 (Dr. L. Péringuey).

Cryptus rufoplagiatus, Cam.

Ann. S. Afr. Mus., v, 1906, p. 139, ♂.

A large ♂ homotype of 17 mm. was captured at French Hoek in Cape Province during December 1916, by K. H. Barnard.

Subfamily **Pimplinae**.

TRIBE PIMPLIDES.

Subtribe PIMPLINI.

Gen. **HEMIPIMPLA**, Sauss.

Grand. Hist. Madag., 1892, p. xiii; *Cosmiopimpla*, Cam., Trans. S. Afr. Phil. Soc., xv, 1905, p. 198.

Hemipimpla bifasciata, Morl.

Revis. Ichn., iii, 1914, p. 106, ♂♀.

A small female, labelled O'kiep, Warden, 1886, differs from the typical form only in having a length of 12½ mm. to the terebra instead of 10 mm., in its black frons, vertex, occiput, and temples, and in not having the hind legs at all black; the shape, sculpture, and neuration are identical.

Hemipimpla superba, Szepi.

Kil.-Meru Exped., viii, 3, 1910, p. 79, ♀.

One female, agreeing well with the original description excepting in its darker rufescent abdomen, was captured during December 1916 at Eshowe in Zululand, by H. W. Bell-Marley.

Hemipimpla calliptera, Sauss.

Found at Oudenbosch, Caledon Division, at 1500 feet during January 1919, by K. H. Barnard.

Gen. PIMPLA, Fab.

Syst. Piez., 1804, p. 112.

Pimpla spiloaspis, Cam.

Records Albany Mus., i, 1904, p. 146 ; *P. brunneiventris*, Cam.,
lib. cit., i, 1905, p. 238.

A pair was captured at M'fongosi in Zululand during May 1917, by W. E. Jones. I owe the synonymy of *P. brunneiventris* with the present species to Dr. L. Péringuey, who examined a ♂ from Salisbury, Southern Rhodesia (May 1917, R. W. Tucker).

Pimpla crocacia, Tosq.

Mem. Soc. Ent. Belg., v, 1896, p. 310.

A small male was found by Dr. L. Péringuey during October 1916 at Knysna in Cape Province. It is now known from Abyssinia, Uganda, Transvaal, Natal, Zululand, and the Cape.

Pimpla melanospila, Cam.

A female bred at Kabete, in British East Africa, during November 1917.

Gen. THERONIA, Holmgr.

Theronia melanocera, Holmgr.

Both sexes of this species have at last been bred, probably from the Noctuid moth *Plusia orichalcea* (a Palaearctic species, occurring in England), at Kabete, on 15th July 1918.

Subtribe GLYPTINI.

Gen. SJOSTEDTIELLA, Szepi.

Kil.-Meru Exped., ii, 1910, p. 786.

Sjostedtiella vittinotum, sp. nov.

♀. A shining black species with profuse flavous markings, the abdomen clear red and wings hyaline. Head strongly transverse,

glabrous and very sparsely punctate, with face, cheeks, clypeus, mandibles, except apices and all the orbits broadly, flavous; frons centrally impressed and subcarinate but not cornute; face elevated longitudinally in centre, and hardly discreted from the subconvex and nearly circular clypeus; basal clypeal foveae nigrescent; palpi infusate, with two basal joints of maxillary fulvous. Antennae slender, filiform—immaculate and shorter than body. Thorax cylindrical, deeply and evenly punctate, with prothorax nearly entirely, two discally coalescent mesonotal vittae, two subcircular mesopleural marks and another at metapleural base, and fully apical half of metathorax except laterally, flavous; metanotum punctate to apex with no areae nor basal transcarina, its apical transcarina weak; spiracles minute, circular, and prominent. Scutellum elongate, convex, punctate, and, like postscutellum and basal carinae and frenal margins, entirely flavous. Abdomen bright red with the anus but slightly infusate, somewhat closely punctate with short white pubescence; basal segment distinctly a little longer than broad at its glabrous apex and discally impressed; two following deeply impressed *en chevron*; fourth basally bituberculate and remainder nitidulous; terebra slender, black and hardly length of abdomen. Legs slender and flavous; hind ones with femora, tarsi except metatarsal base, tibiae, apices underside of coxae black, their tibiae, calcaria, and metatarsal base rufescent; tarsal claws shortly pectinate. Wings hyaline, with tegulae, stigmal base, and costa in both wings except internally, flavous; nervures and stigma nigrescent; areolet irregularly triangular, externally rounded and pellucid below, emitting recurrent from near centre. Length, 10 mm. ♀ only.

R. M. Lightfoot captured a couple of females at 3500 feet on Matroosberg, Ceres Division, Cape Province.

Sjostedtiella erythrostoma, sp. nov.

♀. A shining black species with some flavous markings, the abdomen clear red and wings hyaline. Very like the last species, but smaller and narrower, with only the clypeus, cheeks, mouth, vertical orbits, propleurae broadly above, scutellum discally, postscutellum, trochanters and anterior coxae, flavous; legs fulvous with hind femora and coxae black; metathorax with no transcarinae; stigmal base and coxa not pale; recurrent nervure emitted from apical fourth of areolet. Length, 7 mm. ♀ only.

The type occurred to R. M. Lightfoot during November 1916 at 4500 feet on Gt. Winterhoek, Tulbagh, in Cape Province.

Sjostedtiella nigritorndata, Cam.

Glypta nigritorndata, Cam., Ann. S. Afr. Mus., v, 1906, p. 117, ♂.

♂♀. The type of this species, which I have examined, has distinct alar areolet, the nervellus intercepted as in *Sjostedtiella* and all other features of this genus. It is at once known from the above species by its red and very sparsely punctate, shining mesonotum, with deeply impressed notauli. The hitherto unknown female was captured in S.W. Africa (Mandated Territory) during 1916 by Dr. Knobel, and differs from the male in nothing but its flavous head below antennae, frontal orbits, propleurae above, scutellum and front coxae; the terebra is slender, black, and somewhat longer than the abdomen.

Sjostedtiella unirufa, sp. nov.

♂. A somewhat dull and totally red species, with only the antennae and hind legs, from immediately beyond their tibial base, black; the wings are infumate but not nigrescent, with nervures black and tegulae red and extreme base of stigma flavidous. In sculpture it agrees *ut ovum ovo* with *S. nigritorndata*, from which the dark wings, with distinctly postfurcal lower basal nervure, will distinguish it. Length, 10 mm. ♂ only.

The type occurred to Bell-Marley at Eshowe in Zululand during December 1916.

TRIBE LISSONOTIDES.

Gen. SYZEUCTUS, Forst.

Synop. Vert. Ver. Rheinl., xxv, 1868, p. 167.

Syzeuctus annulatus, Brulle.

Lissonota annulata, Brulle, Hist. Nat. Ins. Hym., iv, 1846, p. 109, ♂♀.

At least the ♂ of this species is a true *Syzeuctus*, with elongate-oval metathoracic spiracles. It was taken at Grahamstown by Mr. H. Baines during February 1911.

Syzeuctus spilostoma, Cam.

Lissonota spilostoma, Cam., Records Albany Mus., i, 1905, p. 239, ♀.

Dr. L. Péringuey has been so good as to send me a homotype of this female, taken at Grahamstown during May 1916. This has the metathoracic spiracles elongate-ovate.

Syzeuctus bisannulatus, sp. nov.

♀. A shining black species with dull red thorax, instantly known by the pure white-banded abdomen, antennae and hind tibiae. Head shining and vertically narrow with prominent eyes; the apically rounded clypeus and the centre of face convex and hardly discreted, latter sparsely punctate and laterally pale flavous, mouth and apical half of clypeus concolorous. Antennae filiform and slender, with basal joints elongate and five at their apical two-thirds pure white. Thorax confluent punctate and dull, crimson-red with only sternum infusate; notauli and all metathoracic carinae wanting; spiracles small and linear. Scutellum shining, sparsely punctate, concolorous with thorax and not margined. Abdomen deep black and strongly nitidulous, with sparse white pubescence and the basal half of third segment pure white; first segment quite smooth, second obsoletely alutaceous; terebra stout, black, rather longer than half abdomen and apically acute. Legs slender, elongate and black; anterior coxae flavous beneath; anterior tibiae and, except basally, front femora testaceous; a third of hind tibiae immediately beyond their base, and basal two-thirds of third hind tarsal joint, pure white. Wings narrow with tegulae red, stigma and nervures black, and extreme apices sub-infumate; basal nervure nearly continuous; areolet triangular, petiolate and not broad, emitting straight recurrent nervure slightly beyond its centre; nervellus centrally intercepted, its spurious nervure apically arcuate. Length, $9\frac{1}{2}$ mm.; terebra, 3 mm. ♀ only.

Captured at Durban during February 1913, by W. Haygarth.

Syzeuctus fulvipalpis, Cam.

Lissonota fulvipalpis, Cam., Ann. S. Afr. Mus., v, 1906, p. 122.

Male. A dull and very strongly punctate black insect, with hyaline wings, stumpy thorax, and profuse red markings. Head almost broader than thorax, and hardly constricted behind the internally parallel eyes; occiput nitidulous; frons centrally impressed and laterally transstriae, with its sides, all the orbits and head below the scape red; face centrally subbuccate. Antennae red, with scape and two or three basal flagellar joints nigrescent above; its apex strongly compressed. Thorax very short and high, with metathorax shorter than high; prosternum and pleurae, hamate marks at radius coalescent with an apically truncate mark on mesonotal disc, centre of mesopleurae broadly, frenum below radices, apex of metathorax broadly and a lateral spot, red; metathorax with no carinae. Scutellum and postscutellum red. Abdomen linear, basally nitidulous

and apically subpilose ; base and apex of the four first segments, and apex of remainder obscurely red. Legs slender and red with hind femora except apically, and base of both trochanters and coxae, black. Wings hyaline with no apical cloud ; tegulae red, nervures and stigma castaneous ; areolet elongately petiolate, emitting the concave recurrent nervure from its apical third. Length, 10 mm.

Taken at the junction of the Crocodile and Marico Rivers in the Transvaal during February 1918, by R. W. Tucker. I have seen the female type of this species, which is referable to *Syzeuctus*, in the South African Museum.

Gen. ASPHRAGIS, Forst.

Synop. Vert. Ver. Rheintl., xxv, 1868, p. 166.

Asphragis flavidorbitalis, Cam.

Asphragis ? *flavidorbitalis*, Cam., Entomologist, xxxix, 1906, p. 18, ♀.

Philotymma ? *flaviceps*, Cam., Ann. S. Afr. Mus., v, 1906, p. 131, ♂.

Asphragis flavidorbitalis, Morl., loc. cit., xvii, 1917, p. 217, ♂♀.

I find my ♂ of this species, described at the last reference, was not new ; for it had already been brought forward as a *Tryphonid* (!) by Cameron under the genus *Philotymma*. This ♂ type, which I have examined, differs from my specimen only in the lack of black upon the second segment and its greater restriction upon the vertex. The metathoracic spiracles are small and circular.

Asphragis rufipes, Cam.

Trans. S. Afr. Phil. Soc., xv, 1905, p. 201.

Another male of this Cape species, taken at Salisbury in South Rhodesia during May 1917 by R. W. Tucker, differs from the original description slightly in coloration. The metanotum is nigrescent only around the spiracles ; the incisures only of the four basal segments are stramineous-white, and not " for the greater part dull rufous " ; and the legs, " coloured like the thorax," are testaceous with the tarsi no darker, the anterior and apices of hind coxae white, and the remainder of hind coxae with their femora nigrescent. The species is correctly ascribed to the present genus.

Asphragis straminea, sp. nov.

♂. A small, pale flavous insect with luteous stigma and profuse black markings thus : mandibular apices ; ocellar region, emitting a central occipital line to basal capital margin ; lateral mesonotal lines, and apex of central lobe ; frenum ; metanotal disc, more

narrowly towards apex; abdominal disc, except base and apex of all the segments; onychii. The coloration is not dissimilar to that of *Syzeuctus maculatorius*, Fab.; the sculpture is as in *A. flavidorbitalis*, though slightly more superficial. Metathoracic spiracles small and circular. Hind tarsi, antennae and alar nervures infusate. Length, 5 mm. ♂ only.

"Parasite of Codlin Moth," South Africa.

Gen. LISSONOTA, Grav.

Lissonota deversor, Grav.

Ichn. Europ., iii, 1829, p. 591; Morley, Ichn. Brit., iii, 1908, p. 217.

A rather pale, but otherwise perfectly typical female of this palaearctic species was caught on Table Mountain, Cape Town, during February 1919, by R. W. Tucker. The last specimen I saw flew in to artificial light at Monks Soham House, Suffolk!

TRIBE ACAENITIDES.

Gen. ACRONUS, Tosq.

Mem. Soc. Entom. Belg., v, 1896, p. 269.

Acronus enderleini, Schulz.

Spolia Hym., 1906, p. 117, ♀.

The ♂ of this very large species was captured by Dr. G. Arnold on 4th December 1911 in the Matoppo Hills of Southern Rhodesia. It differs only sexually from the ♀; its only coloration is the testaceous flagellar tip; the length is 30 mm., with an expanse of its beautifully iridescent-blue wings of no less than 55 mm.

Acronus saliformis, Enderl.

Zoolog. Anzeiger, xxviii, 1904, p. 67.

Originally described from Usambara. H. W. Bell-Marley took a female at Durban, November 1915; Miss Edwards another female at Barberton, Transvaal.

Gen. CTENOTOMA, Cam.

Ann. S. Afr. Mus., v, 1906, p. 127, and v, 1907, p. 224.

Ctenotoma ruficeps, Cam.

Ann. S. Afr. Mus., v, 1906, p. 129, ♀.

A pale form of the ♀ was bred from the moth *Gonometra maputana* at Salisbury in Southern Rhodesia during 1908. The ♂ is still unknown.

Gen. PARACOLLYRIA, Cam.

Ann. S. Afr. Mus., v, 1906, p. 106.

Paracollyria flavipennis, Cam.

Loc. cit., p. 107, ♂.

W. E. Jones took another male at M'fongosi in Zululand during February 1917. This differs from the type, which I have seen, in having the front legs almost entirely black and the apices of both wings broadly black, which nigrescence is reflexed above the anal nervure and occupies the apical three-fourths of the discoidal cell, ending in a streak within the areolar nervure.

Paracollyria ruficollis, Cam.

Loc. cit., p. 107, ♀.

The hitherto unknown ♂ was captured at Bulawayo in Southern Rhodesia on 3rd August 1913. It differs from the ♀ description in having the whole pro- and meso-thorax, scutellum, postscutellum, and frenum, with whole anterior legs entirely pale red; the alar "clear hyaline cloud" is wanting; the wings are uniformly nigrescent, with the stigmal base alone conspicuously albescent. The ♂ segments two to four are longer than those of the ♀; its antennae are exactly as long as the body, 15 mm., filiform and apically subtruncate.

Gen. PHAENOLOBUS, Forst.

Verh. pr. Rheinl., xxv, 1868, p. 168.

This is an extremely puzzling genus of unstable coloration, whereof a good many species occur in Africa, though only four have hitherto been recorded. I have before me single examples of three others: (a) is from Zululand in January 1917, and differs from the Palaearctic (and British) *P. atrator*, Rossi, in nothing but colour; the head below the antennae is piceous with mouth and orbits testaceous, all the legs with the exception of the front and hind coxae and the onychii are red, and the wings infumate with violaceous iridescence and the apical margin darker; (b) from the same locality in February, differs from (a) solely in having the head and mesonotum brick-red and the legs, except anterior femora and tibiae with front tarsi, black; (c) was captured at Eshowe in Zululand during December 1916, and has the notauli somewhat less deeply impressed with the black meta-thorax striate; all the remainder of thorax, the head, whole legs and

two basal segments, are brick-red ; I do not think it can be *P. luteus*, Szepi., Kil.-Meru Exped., viii, 3, 1910, p. 87 (*nec* Holmgr.) = *P. flavus*, Roman, Entom. Tidskr., xxxi, 1910, p. 184. My material is insufficient to determine the specific value of these small distinctions.

Africa is certainly the home of the *Acaenitides*, and their number is so rapidly swelling that a table of the genera already known to occur is not without its value :

- | | | |
|------|--------------------------------------------------------------|----------------------------------|
| (4) | 1. Alar areolet present and entire. | |
| (3) | 2. Hypopygium not reaching abdominal apex . | <i>Phaestacaenitus</i> , Burgst. |
| (2) | 3. Hypopygium extending to abdominal apex . | <i>Coleocentrus</i> , Grav. |
| (1) | 4. Alar areolet utterly wanting. | |
| (6) | 5. First tarsal joint longer than rest together . | <i>Encardia</i> , Tosq. |
| (5) | 6. First tarsal joint not longer than remainder. | |
| (8) | 7. Second recurrent emitted before areolar nervure . | <i>Aroles</i> , Grav. |
| (7) | 8. Second recurrent emitted beyond areolar nervure. | |
| (18) | 9. Notauli deeply impressed. | |
| (13) | 10. Cubital nervelet utterly wanting. | |
| (12) | 11. Legs very long ; wings fasciated | <i>Otenotoma</i> , Cam. |
| (11) | 12. Legs short and stout ; wings simple | <i>Phaenolobus</i> , Forst. |
| (10) | 13. Cubital nervelet present though often short. | |
| (15) | 14. Second segment longer than apically broad . | <i>Collyria</i> , Schiöd. |
| (14) | 15. Second segment not longer than apically broad. | |
| (17) | 16. Legs short and stout ; antennae shorter than body | <i>Chorischizus</i> , Forst. |
| (16) | 17. Legs elongate, antennae nearly as long as whole body | <i>Paracollyria</i> , Cam. |
| (9) | 18. Notauli not deeply impressed, usually indicated. | |
| (20) | 19. Metathorax long and rugose ; head longer than broad | <i>Hieroceryx</i> , Tosq. |
| (19) | 20. Metathorax and head not longer than broad. | |
| (22) | 21. Femora not compressed ; front claws sub-apically dentate | <i>Acaenitus</i> , Latr. |
| (21) | 22. Femora compressed ; tarsal claws not dentate . . . | <i>Acronus</i> , Tosq. |

TRIBE BANCHIDES.

Gen. TEGONA, Morl.

Faun. Ind. Ichn., i, 1913, p. 251.

Tegona discreta, Morl.

Ann. S. Afr. Mus., xvii, 1917, p. 213, ♀.

♂♀. I have now received from the same locality as the type in Zululand both sexes of this clear testaceous species. The ♂ was captured in February 1917 and differs in having the head and thorax immaculate, with the ocellar region alone narrowly nigrescent ; the anal valvulae are large.

Subfamily Tryphoninae.

TRIBE METOPIIDES.

Gen. METOPIUS, Panz.

Krit. Revis., ii, 1806, p. 78.

Metopius discolor, Tosq.

Mem. Soc. Entom. Belg., v, 1896, p. 361; *M. erythropus*, Cam.,
Records Albany Mus., i, 1904, p. 148; *M. recedens*, Schulz., Spolia
Hym., 1906, p. 98.

No label.

TRIBE TRYPHONIDES.

Gen. PERILISSUS, Holmgr.

Sv. Ak. Handl., 1854, p. 61; 1855, p. 121.

Essential Characters.—Head discally broad and subquadrate; face centrally neither concave nor protuberant; mandibles simple, the teeth of unequal length and the upper not apically bifid; frons not concave. Scutellum simple and not quadrate. Abdomen deplinate and not tuberculate, basally subpetiolate; spiracles of basal segment not beyond its centre; terebra not extending beyond anus. Legs with hind calcaria entire; tarsal claws not pectinate. Alar areolet entire and not pentagonal.

Perilissus semifulvator, sp. nov.

A small and somewhat stout black species, closely punctulate and a little shining, with no flavous markings and the abdomen alone totally fulvous. Head almost broader than thorax, subcubical, tumidous behind the eyes; immaculate. Antennae slender, filiform and longer than body; immaculate. Thorax closely punctulate, with apical notauli; mesopleurae very finely punctate; metathorax dull with areola elongate and subparallel-sided, costulae very strong, and petiolar area basally distinct. Scutellum black and subconvex. Abdomen pale red throughout; basal segment not dull, alutaceous and very finely punctate, hardly sulcate above the central and subprominent spiracles; second transverse; terebra hardly darker and extending beyond anus. Legs slender and totally black; tarsal

claws not pectinate. Wings with radix and tegulae stramineous, stigma piceous and slightly paler basally; areolet large, irregularly orbiculate and distinctly a little petiolate; nervellus antefurcal and intercepted at its centre. Length, $6\frac{1}{2}$ mm. Female only.

The structure and size of this species are extremely similar to those of *P. orbitalis*, Grav.; and both belong to the division known as *Ecclinops*, which is characterised by having the clypeus finely punctate, nervellus not intercepted above its centre, discoidal cell apically subrectangular, head hardly broader than thorax, posteriorly subparallel-sided, and the abdomen broadly red. Structurally these two species differ in little more than the strong metanotal costulae, evenly punctate mesopleurae and central interception of the nervellus of the new kind. Seven species of *Mesoleptini* have been recorded from the extreme north of Africa; it is interesting to find that they extend further south. This was found at Kabete, British East Africa, on 27th April 1918.

Subtribe CTENOPELMINI.

Gen. ERROMENUS, Holmgr.

Sv. Ak. Handl., 1855, p. 221.

Erromenus fumipennis, sp. nov.

♂. Pale testaceous and dull, with the head, thorax, and coxae somewhat shining; antennae, eyes, ocelli, mandibular apices, onychii, and all the nervures of the evenly infumate wings, alone black. Head short and vertically narrow, not as broad as thorax; frons deplanate, with scrobes extending to apical ocellus and centrally cornute; face and clypeus subconvex and discreted, with basal foveae of latter infusate and its apex margined; mandibles small and stout, apically bidentate and basally setulose; ? palpi obsolete. Antennae black, setaceous, pilose, and but little longer than half body, with scape cylindrical and apically truncate. Thorax stout and short, with neither notauli nor sternaui; propleurae forming a lateral margin to mesonotum broader than tegulae; metathorax short and subvertical, with strong and semi-circular basal area from the apex whereof a carina extends to small apophyses on either side; pleural carinae strong; spiracles small and oblong. Scutellum small, deplanate and not margined, with its disc centrally impressed and basal sulcus multicarinate; postscutellum obsolete, laterally determinately carinate. Abdomen short, stout, sessile, and apically

deflexed upon the venter; first segment finely bicarinate nearly to apex; two next strongly transverse and discally uneven; fourth and fifth thrice as broad as long, strongly convex, and laterally subinfusate. Legs short and stout; front tibiae unicalcarate; tarsi cylindrical and short, with claws mutic and only apically curved. Wings very broad, with tegulae testaceous, nervures and stigma black; costa conspicuously black; basal nervure strongly curved above, continuous through median; inner cubital but little curved; apical abscissa of radius double length of basal; areolet strong, oblique-rectangular and half as long again as broad, petiolate, and emitting the curved and bifenestrate recurrent nervure from near its apex; nervellus intercepted far below centre. Length, 10 mm. ♂ only.

This species is at most but an aberrant member of *Erromenus*; but the erection of a distinct genus would be premature in the absence of the female.

The type was captured during January 1917 at M'fongosi, in Zululand, by W. E. Jones.

PRIONOPODA, Holmgr.

Sv. Ak. Handl., 1855, p. 120.

Prionopoda testaceoides, sp. nov.

? *Prionopoda testacea*, Szep., Kil.-Meru Exped., viii, 3,
1910, p. 91.

♂♀. A slender and totally testaceous species, strongly resembling the genus *Paniscus*, but with buccate temples, petiolate areolet and rectangular cubital nervure. Head glabrous and basally as broad as the eyes, with temples, seen from above, as long as the eyes; face and clypeus deplanate and discreted; mandibular apices, eyes, ocelli and their region, alone black. Antennae very slender, infusate-testaceous and longer than the body. Thorax glabrous and nitidulous with obsolete notauli and sternaui, metathorax impunctate with complete areae, areola hexagonal and emitting costulae parallel with its apical transcarina, which extends to lateral carinae; petiolar area entire and concave, spiracles ovate and not small. Scutellum convex, shining, apically subcompressed, and laterally carinate only at extreme base. Abdomen shining with short fulvous pubescence, subcompressed or in ♀ compressed; first segment smooth, strongly

elongate and discally nearly straight, with distinct spiracles slightly before centre; valvulae exerted, terebra shorter than basal segment and fulvous, with sheaths apically truncate. Legs slender and not very long; claws pectinate. Wings hyaline with tegulae and stigma pale testaceous, nervures infusate; lower basal nervure postfurcal and reflexed; inner cubital rectangular below base of stigma, and thence emitting a strong and short nervelet; areolet oblique, nodose-petiolate, internally rectangular and apically subacute; radial nervure apically sinuate; nervellus intercepted distinctly above centre. Length, 11-13 mm.

I have described this species from a pair captured at Salisbury in Southern Rhodesia by D. Dodds, and at Willowvale, Cape Province, on 2nd January 1917. I am sorry to be unable to compare it with the late Dr. Szepligeti's Kilimanjaro species.

Gen. CTENOPELMA, Holmgr.

Sv. Ak. Handl., 1885, p. 117.

Ctenopelma ligulata, sp. nov.

♀. A large and ochraceous female with the eyes, ocellar region to occiput, antennae except underside of scape, three mesonotal vittae, base of third segment triangularly and disc of the following ones, stigma and nervures, lateral margin of third to fifth segments and apices of tarsi indefinitely, black. Head transverse and closely coriaceous, with vertex narrow and temples as broad as eyes, frons concave; face deplanate and not discreted from the liguliform clypeus, which is laterally sulcate and transcarinate; mandibles stout, triangular, prominent, apically obtuse and unidentate. Antennae setaceous and nearly as long as body, with scape nigrescent-ferrugineous beneath. Thorax stout and closely punctate, with strong notauli and weak sternaui; apex of pronotum elevated and truncate; metathorax short and obliquely declived, shining with the petiolar area transstriae; areae wanting; basal transcarina laterally strong and sinuate, centre of apical obsolete; apophyses wanting, spiracles large and linear. Scutellum convex and prominent, finely transaciculate throughout and apically obtuse. Abdomen shining, very finely punctate, deep, and apically compressed; basal segment apically convex, with spiracles obsolete; ventral plica strong; spicula acute and slightly exerted. Legs neither stout nor elongate; claws pectinate; all the onychii, and anterior fourth tarsi joint, black, hind

coxae nitidulous. Wings ample and hardly flavescent; upper basal nervure straight, the lower sub-antefurcal; areolet narrow, petiolate, emitting the straight recurrent nervure from its extreme apex; nervellus intercepted at its centre. Length, 19 mm. ♀ only.

The type was bred from the moth *Trabala* sp., on 23rd December 1906, by G. F. Leigh at Durban, Natal.

The only species of this genus previously known from Africa was described by Dr. Szepligeti in 1910 from Kilimanjaro.

Subfamily Ophioninae.

TRIBE CREMASTIDES.

Gen. CREMASTUS, Grav.

Ichn. Europ., iii, 1829, p. 730.

Cremastus geminus, Grav.

Loc. cit., p. 744, ♀; Thomson, Opusc. Entom., xiv, p. 1454; Morley, Ichn. Brit., v, 1914, p. 56, ♂♀.

Two typical ♂♂ "parasite of a trap-door caterpillar (*Hepialidae*)" have been bred during June 1917, at Alicedale, in the Cape Province, by F. Cruden. This is an addition to the African fauna; in Europe it preys exclusively upon *Psychid* moths.

Cremastus testaceus, Szepl.

Kil.-Meru Exped., viii, 3, 1910, p. 50.

Originally described from Usambara. W. E. Jones found a ♀ at M'fongosi in Zululand during January 1917.

Cremastus noxiosus, Morl.

Faun. Ind. Hym. Ichn., i, 1913, p. 501, ♂♀.

Recorded from Africa by me in these Annals (xvii, 1917, p. 225). I have recently seen a pair captured on 25th October 1911 by C. J. Swierstra at Fountain Grove in the Pretoria district of the Transvaal.

Cremastus annulicornis, Tosq.

Mem. Soc. Ent. Belg., v, 1896, p. 416.

Females were found in May 1917 at Salisbury in Rhodesia, and Komati Poort in East Transvaal in November 1918, by R. W. Tucker. Previously known only Delagoa Bay and Zululand.

Gen. PIMPLMORPHA, Cam.

Ann. S. Afr. Mus., v, 1906, p. 95; *Androna*, Cam., Ann. Mus. Transvaal, 1911, 185.

Pimplomorpha trilineata, Cam.

Loc. cit., ante; Morley, Ann. Mag. Nat. Hist., xvi, 1915, p. 339.

Another female was found by R. W. Tucker, during February 1918, at the junction of the Crocodile and Marico Rivers in the Transvaal.

TRIBE CAMPOPLEGIDES.

CAMPOPLEX, Grav.

Ichn. Europ., iii, 1829, p. 453.

Campoplex erythrospilus, Cam.

Ann. S. Afr. Mus., v, 1906, p. 94, ♀.

The red basal segment and red-marked thorax are distinctive; its author omits mention of the terebra, which is stout, black, and hardly extending beyond abdominal apex. R. M. Lightfoot took another ♀ during November 1916, at Gt. Winterhoek, Tulbagh, Cape Province, at 4500 feet.

Campoplex crassicaput, sp. nov.

A black species with the legs and anus red; head strongly buccate. Mandibles except apically, palpi, underside of scape and apices of the black coxae pale. Head discally subquadrate, as in the genus *Olesicampa*; frons not impressed. Antennae stout, attenuate and but little longer than half body with simple scrobes. Thorax immaculate with propleurae not striate, the metanotal impression somewhat deep and spiracles sub-elongate. Abdomen black, with the fourth and following segments abruptly red, sometimes with their apices infusate above; valvulae red, ventral plica stramineous. Legs slender and not elongate, fulvous; hind femora and calcaria entirely red, their tibiae and tarsi nigrescent with the former, except basally, tinged with red. Wings somewhat small; radix and tegulae stramineous; recurrent nervure emitted beyond centre of the petiolate and somewhat small areolet; hindwings with basal radial abscissa very slightly longer than recurrent nervure; nervellus subgeniculate distinctly below centre. Length, 9–10 mm. Male only.

At once known by the subquadrate vertex. Much more like an *Olesicampa* than a *Campoplex* in its capital structure and abdominal coloration; but the antennae are short and stout, and the metathoracic spiracles elongate.

Two males were captured at Salisbury in Southern Rhodesia during May 1917, by R. W. E. Tucker.

Gen. NEPIERA, Forst.

Verh. Ver. Rheinl., xxv, 1868, p. 156.

Nepiera concinna, Holmgr.

A couple of females, taken by L. Péringuey in October 1916, at Knysna, in Cape Colony; and by R. W. E. Tucker, in February 1918, at the junction of the Crocodile and Marico Rivers in the Transvaal.

Gen. ANGITIA, Holmgr.

Holmgren, Sv. Ak. Handl., 1858, No. 8, p. 106; Thomson, Opusc. Entom., xi, 1887, p. 1153.

Essential Characters.—Body slender. Head distinctly transverse and not vertically quadrate; face not pale-marked; mandibular teeth of equal length; eyes glabrous and internally subparallel, not or hardly emarginate next scrobes; clypeus with no central apical tooth. Thorax black throughout; petiolar area not excavate; metathoracic spiracles circular. Abdomen black, rarely more or less red, not apically explanate; terebra usually elongate. Legs slender; tarsal onychii normal and onyches not or but finely pectinate. Wings hyaline; areolet either entire or wanting; nervellus vertical and strongly postfurcal, never geniculate, but usually pellucid.

Table of the African Species of the Genus Angitia.

- | | | |
|------|--------------------------------------------------------------------------------|--------------------------------|
| (6) | 1. Head vertically broad; flagellum filiform and slender; scape usually black. | |
| (3) | 2. Alar areolet wanting and stigma narrow . . . | 1. <i>apostata</i> , Grav. |
| (2) | 3. Alar areolet entire and stigma normal. | |
| (5) | 4. Metathorax apically rugose; mesopleurae nitidulous . . . | 2. <i>rufipes</i> , Grav. |
| (4) | 5. Metathorax not apically rugose; pleurae dull . . . | 3. <i>claripennis</i> , Thoms. |
| (1) | 6. Head vertically narrow; flagellum stout; scape usually pale beneath. | |
| (10) | 7. Areolet regularly triangular, recurrent central; hind tibiae banded. | |
| (9) | 8. Mesopleurae evenly punctate; hind tibiae hardly pale | 4. <i>chrysosticta</i> , Gr. |
| (8) | 9. Mesopleurae coarsely punctate; tibiae basally pale | 5. <i>trochanterata</i> , Th. |
| (7) | 10. Areolet irregular, recurrent beyond centre; tibiae not banded | |
| | | 6. <i>cylindrica</i> , Brisc. |

Angitia apostata, Grav.

Morley, Ichn. Brit., v, 1914, p. 187; *Campoplex apostata*,
Gr., 1829, p. 510.

I am quite unable to distinguish between a female *Angitia* of the subgenus *Diocles*, Forst., taken at Steynsburg, in Cape Colony, during April 1914, by R. M. Lightfoot, and the normal European form of *A. apostata*, Gravenhorst, which has not before been noticed anywhere in Africa. It possesses red abdomen and terebral valvulae, coxae, antennae, and tarsi; but this coloration appears to represent nothing but a local form; and in structure the two agree *ad amussim*. It is quite distinct from any of the exotic species described by me in Fauna Indica, 1913, p. 470.

Gen. RHIMPHOCTONA, Forst.

Verh. pr. Rheinl., 1868, p. 153.

Essential Characters.—Head broadly transverse and but little constricted posteriorly; clypeus short, not discreted from face and often centrally dentate apically. Antennae setaceous and fully three-fourths the length of body. Thorax stout, with speculum somewhat dull; metathorax declivous throughout and a little produced apically, with distinct areae; costulae subentire, spiracles not circular. Scutellum neither deplanate nor margined. Abdomen strongly compressed from base of third segment; terebra elongately exerted. Areolet entire and usually petiolate; nervellus geniculate.

Rhimphocotona bolibasalis, sp. nov.

♂♀. A dull and slender black species with red abdomen and legs, distinct silvery pubescence, hyaline wings and elongate terebra. Head closely punctate and dull, transverse but not constricted behind eyes, temples subparallel; frons deplanate and not carinate; face and clypeus not discreted, evenly punctate and dull with apex of latter subtruncate, its centre tuberculiformly produced; cheeks very short, palpi testaceous; mandibles stout, shining, subparallel-sided and, except their equally bidentate apex, flavidous. Antennae apically setaceous; of ♀ but little longer than half body with scape apically ferrugineous beneath, of ♂ three-fourths length of body with scape mainly ferrugineous. Thorax deeper than broad, closely punctate, dull and immaculate, notauli short and not deeply impressed, sternauli strong; metanotum gradually declived from base to the distinct meta-

thoracic production above hind coxae, and not curved; areola shorter than the transstriae and hardly impressed petiolar area, elongate-hexagonal, and nearly twice as long as broad, emitting indistinct costulae from its basal third; lateral carinae strong, spiracles linear. Scutellum and its basal fovea dull, closely punctate; the latter slightly convex. Abdomen slender, claret-red, closely shagreened and dull, with the apical segments and the black basal half of the first one nitidulous; ♂ with anus discally black from apex of fifth segment, ♀ with basal half of second segment, its reflexed epipleurae, and extreme base of the third nigrescent; apical half of basal segment laterally rounded and discally convex; second segment subconstricted near its base; terebra black and fully three-fourths the abdominal length (terebra, 6 mm.; abdomen, $7\frac{1}{2}$ mm.). Legs slender and not elongate, unicolorous claret-red, usually with hind tarsi and in ♀ their tibiae infusate; ♂ with all coxae except at apex, ♀ with hind coxae sometimes, black; claws not small, basally hardly pectinate. Wings narrow and not elongate, extending to fourth segment; hyaline with tegulae fulvous, radix paler, stigma and nervures nigrescent with former rarely fulvidous; basal nervure continuous; discoidal cell narrow, subparallel-sided and apically acute below; areolet strong, elongately petiolate and triangular with its lower side curved and emitting the straight recurrent nervure hardly beyond its centre; nervellus subgeniculate at its lower third, emitting no spurious nervure. 9–11 mm. ♂♀.

Probably not an uncommon species. H. W. Bell-Marley found the type at Eshowe in Zululand during December 1916; W. E. Jones a female at M'fongosi in Zululand during February 1917; and K. H. Barnard both sexes during 1916 at 4000 feet in the Hottentot Holland Mountains (Caledon side) in the Cape Province.

TRIBE ANOMALIDES.

Gen. TRICHOMMA, Wesm.

Bull. Acad. Sc. Berg., xvi, 1849, p. 119.

Trichomma albicoxa, Morl.

Revis. Ichn., ii, 1913, p. 65, ♂♀.

Both sexes of this distinct species have again been captured, by G. Shortridge at St. John's in the Cape Province during 1905, and by Miss Pegler at Kentani, in the Cape Province.

TRIBE OPHIONIDES.

Subtribe NOTOTRACHINI.

Gen. NOTOTRACHYS, Marsh.

Trans. Ent. Soc., 1872, p. 260.

Several species of this tribe have now been described from South and Central Africa, but in so inadequate a manner and so scattered a form that it appears well to give a conspectus of them here. I do not know *Ophionomorpha* (*Ophiomorpha*, sic), Szepl., Genera Ins., xxxiv, 1905, p. 34, with two species from Afric. equat.; *Silavoga*, Cam., Ann. Mus. Transvaal, ii, 1911, p. 190, with one species from Afric. mer.; and *Coiloneura*, Szepl., Kil.-Meru Exped., viii, 3, 1910, p. 47, with a single species from Kilimanjaro. I have seen the types of Cameron's genera *Ophiononeura* (*Ophioneura*, sic), Records Albany Mus., i, 1904, p. 174, and *Erythrophion*, Ann. S. Afr. Mus., v, 1906, p. 87, and I consider neither them nor *Stictophion*, Cam., loc. cit., p. 85, to be distinct from *Nototrachys*, Marsh., whereof the following table comprises the described species, not all of which seem good to me.

African Nototrachys Species.

- | | | | |
|------|-------------------------------------------------------------------------------|-----------|---------------------------------------|
| (8) | 1. Cheeks short; basal metanotal areae distinct | | <i>Ophiononeura</i> |
| (7) | 2. Head and thorax mainly black; coxae mainly black. | | |
| (4) | 3. Coxae not flavous-marked | | 1. <i>foliator</i> , Fab. |
| (3) | 4. Coxae black and flavous. | | |
| (6) | 5. Face, mesonotal disc and pleurae not flavous | | 2. <i>rufidens</i> , Cam. |
| (5) | 6. Face, mesonotal disc and pleurae flavous-marked | | 3. <i>bidentatus</i> , Cam. |
| (2) | 7. Head and thorax mainly red; coxae entirely red | | |
| | | | 4. <i>flavomaculatus</i> , Cam. 1904. |
| (1) | 8. Cheeks distinctly elongate; metanotum basally carinate, but with no areae. | | |
| (14) | 9. Anterior tibiae inflated and basally constricted; body rufescent | | |
| | | | <i>Erythrophion</i> . |
| (13) | 10. Metanotum basally punctate; anterior coxae red. | | |
| (12) | 11. Stigma red; head and thorax not flavous-marked | | 5. <i>ferrugineus</i> , Cam. |
| (11) | 12. Stigma black; head and thorax flavous-marked | | 6. <i>tisisthenes</i> , Morl. |
| (10) | 13. Metanotum basally glabrous; anterior coxae flavous | | 7. <i>callicrates</i> , Morl. |
| (9) | 14. Anterior tibiae slender, not constricted; body black | | <i>Stictophion</i> . |
| (16) | 15. Stigma, legs and base of antennae black | | 8. <i>nigricans</i> , Cam. |
| (15) | 16. Stigma testaceous; legs and antennal base red | | 9. <i>rufipes</i> , Cam. |

I have had to insert the new names, *tisisthenes* and *callicrates*, because with his usual carelessness Cameron happens to have called no less than three species *flavomaculatus*. For the earliest of these,

that described by him in the Records Albany Mus., 1904, *flavomaculatus* is retained ; for the second, that described in Trans. S. Afr. Phil. Soc., January 1905, I have substituted *tisisthenes* ; and for the last, that described in Albany Museum, April 1905, *callicrates* is substituted. It is by no means clear whether their author intended the last two as distinct *inter se* ; as his description is considerably involved, I here present it in a straightforward form :

Nototrachys tisisthenes, nom. nov.

Nototrachys flavomaculatus, Cam., Trans. S. Afr. Phil. Soc.,
xv, 1905, p. 199.

Red, with profuse flavous markings and the abdomen discally nigrescent. Head glabrous and nitidulous ; face, clypeus, mandibles, palpi and orbits, pale flavous ; frons closely transaciculate and centrally carinate. Antennae nigrescent, with scape red. Thorax with the prothorax, two basally dilated mesonotal lines, mesopleurae except centrally above, metapleurae below radices and broadly at apex, and declivity of metathorax, pale flavous ; base of propleurae stoutly and obliquely striate ; mesonotum strongly and irregularly transstriate, with its apex laterally punctate ; mesopleurae punctate-reticulate below, above with basal half longitudinally striate and the apical smooth ; metathorax closely and strongly reticulate, basally subglabrous before the basal transcarina, which is centrally emarginate towards scutellum ; metapleurae coarsely reticulate. Scutellum and postscutellum pale flavous, the former reticulate. Abdomen with second and following segments discally nigrescent ; terebra 3 mm. in length. Legs rufescent, with the anterior tibiae paler ; " there is a curved keel in front of the middle coxae and another between it and the posterior." Wings hyaline and short, about half length of body ; stigma and nervures black. Length, 10 mm. Female only.

This description was published in January 1905 ; and in April 1905 appeared another description, with the same type-locality, Dunbrody in Cape Colony.

Nototrachys callicrates, nom. nov.

Nototrachys flavomaculatus, Cam., Records Albany Mus.,
i, 1905, p. 250.

This differs from *N. tisisthenes* above in the following details : Mandibular teeth and propleural apices rufescent ; pale mesonotal lines dilated at the apex, instead of at base ; base of petiolar area of

metathorax bears a flavous line; mesonotum laterally punctate throughout; apex of scutellum bears two short and stout carinae; metanotum sparsely punctate before the basal transcarina; mesopleurae mainly rugose. And abdominal details are added. Postpetiole laterally and apically carinate; apical half of basal segment glabrous, nitidulous and dilated, with some stout apical striae.

These distinctions, though individually slight, prove in the aggregate that *tisisthenes* and *callicrates* were not intended by Cameron to be identical species.

Nototrachys flavomaculatus, Cam.

Ophioneura flavomaculata, Cam., Records Albany Mus., i, 1904,
p. 175.

Two more females were captured by R. W. E. Tucker during May 1917 at Salisbury in South Rhodesia.

Nototrachys nigricans, Cam.

This species (and presumably *N. rufipes*, which I do not know) certainly does differ to an appreciable extent from Marshall's genus in its lack of basal metanotal carinae, in the evenly reticulate frons, whereof the central carina is obsolete, in its very much longer cheeks and ♂ flagellum, which is shorter, less filiform, and basally subattenuate. L. Péringuey took a male during October 1918 at Caledon in Cape Province. No female *Stictophion* is yet known.

Nototrachys nirvana, sp. nov.

♂♀. A dull red species with the orbits and in ♂ head below antennae. pronotum, mesonotal vittae, scutellum, and in ♂ sternum with anterior coxae and most of pleurae, clear flavous; basal scutellar sulcus, ♀ disc of second and third segments and the elongate terebra and ♂ ocellar and metathoracic spiracular regions, black. Length, 10–14 mm. This species differs from the type of *Erythrophion ferrugineus* solely in its glabrous temples and internal orbits, basally carinate metanotum, infusate costa and stigma, flavidous scutellum and orbits and lateral mesonotal marks. It was captured by W. E. Jones during March 1917 at M'fongosi in Zululand.

Gen. EURYOPHION, Cam.

Ann. S. Afr. Mus., v, 1906, p. 83.

Essential Characters.—Head posteriorly broader than the eyes; clypeus not apically produced; mandibles vertical; frons basally,

sometimes also laterally, carinate; ocelli emitting carinae to orbits; antennae not pale-banded; metathorax not colliformly produced apically; metanotum short; petiole sculptured; intermediate tibiae bicalcarate; hind coxae normal; wings not hyaline, usually violaceous throughout; nervellus strong.

Euryophion nebulifer, sp. nov.

A fulvo-testaceous species with only the mandibular apices, dots behind tegulae, and abdominal apex from centre of third segment indefinitely black. Head finely and coalescently punctate, transverse and declived immediately behind ocelli, as broad as the prominent eyes; clypeus not basally discreted, apically truncate, margined and subreflexed, basal foveae broad and deeply impressed, apical half more coarsely sculptured; cheeks obsolete. Antennae stout and exactly filiform, not apically attenuate, pilose, and not longer than the body. Thorax stout, with the evenly punctate mesonotum nitidulous; metathorax short, dull and obsoletely reticulate, with no discal carinae; spiracles large and elongate. Scutellum strongly convex, evenly punctate, longer than broad, subparallel-sided and not laterally margined. Abdomen stout but not broad; basal segment smooth with its apical third subexplanate, pilose and finely punctate; anus subpubescent, terebra short and red. Legs neither slender nor elongate; all the coxae closely and finely punctate throughout. Wings ample and distinctly a little infumate, with a subcircular mark near centre of upper basal nervure, the whole radial cell except its base and an oblique streak in the radial cell of lower wings, strongly infumate; a small area immediately below stigma, base of radial cell in all wings and a streak throughout the lower basal and the brachial cells of upper wings, subhyaline; lower basal nervure antefurcal; radius evenly deflexed and subincrassate basally; nervellus strong and intercepted a little below its centre; stigma and basal nervures fulvous, apical ones black. Length, 17 mm. Female only.

Very distinct from the known species of this genus (Morley, Revis. Ichn., i, 1912, p. 5) in its lack of lateral frontal carinae, blotched wings, emission of nervellus and colour of thorax. The type was captured at Kaapmuiden in the Transvaal on 30th October, 1918, by R. W. E. Tucker.

Euryophion superbus, Morl.

Revis. Ichn., i, 1912, p. 6, ♂.

A ♂ of this large species has been bred from the hawk moth *Lophostethus dumolini*, Latr., from Salisbury, Southern Rhodesia.

Gen. PLEURONEUROPHION, Ashmead.

Proc. U.S. Nat. Mus., xxiii, 1900, p. 86.

Pleuroneurophion pruinosis, Cam.

Ann. S. Afr. Mus., v, 1906, p. 82, ♂♀.

Captured at Port St. Johns in Cape Province by G. Shortridge, and at Salisbury in Rhodesia during 1908.

Gen. HENICOSPILUS, Steph.

Illus. Brit. Ent., 1835, p. 126.

Henicospilus bisimpressus, Brulle.

Hist. Nat. Ins. Hym., iv, 1846, p. 148.

A ♂ bred from the Noctuid moth *Ophiura mormoides*, at Durban, in Natal, on 2nd September 1907, by G. F. Leigh.

Henicospilus rubens, Tosq.

Mem. Soc. Entom. Belg., v, 1896, p. 382, ♀.

Captured by Dr. F. W. Purcell at Hanover in Cape Province during 1905.

Gen. OPHION, Fab.

Entom. Syst. Suppl., 1798, p. 210.

Ophion discinervus, sp. nov.

If the type of this species be not a freak, it is one of the most remarkable neurational modifications known, and quite unlike any of the multitudinous specimens enumerated in my Revision of the group in 1913. From all its relatives, this insect differs in having the discoidal cell produced below the stigma at almost an acute angle, from the apex whereof is emitted an elongate and very strong nervure four-fifths of the distance to the upper basal nervure. The remainder of the structure is normal, excepting perhaps the unusual crassity of all the nervures, and density of ungual pectination. Scutellum elongate and laterally margined. Length, 14 mm. ♂ only.

Taken at Durban in Natal, on 5th October 1908, by G. F. Leigh.

Gen. EURYCAMPTUS, Morl.

Rev. Ichn. Brit. Mus., i, 1912, p. 27.

Eurycamptus latipennis, Kirb.

From British East Africa, originally described from the Congo. Bred at the Museum from cocoons of the Saturnid moths *Bunaea caffraria*, *B. macrothyris*, from Southern Rhodesia (Salisbury), and at Salisbury from *Janomima westwoodi*, a Striphnopterygine moth, by Rev. J. O'Neil.

TRIBE PANISCIDES.

Gen. PANISCUS, Schr.

Fauna Boica, ii, p. 2, 1802, p. 316.

Paniscus testaceus, Grav.

Ichn. Europ., iii, 1829, p. 626.

Found at Bulawayo during February 1913, and at Salisbury during 1908.

Paniscus aethiopicus, Szepl.

Kil.-Meru Exped., 1910.

A female found at M'fongosi in Zululand by W. E. Jones considerably extends the range of this species.

Paniscus melanocotis, Holmgr.

One female from Salisbury in Southern Rhodesia on 7th May 1918.

TRIBE MESOCHORIDES.

Gen. MESOCHORUS, Grav.

Ichn. Europ., ii, 1829, p. 960.

Mesochorus nox, sp. nov.

♀. A small and shining black species with luteous markings, and abdominal disc subcircularly pale. Head finely and sparsely punctate, testaceous, with occiput, ocellar region, frons and mandibular apices

black; clypeus short, broad, basally not discreted and apically truncate; mandibles stout and apically bidentate, with lower tooth the longer; palpi whitish. Antennae filiform, very slender, nigrescent and longer than body. Thorax with strong and discally coalescent notauli; prothorax entirely flavescent-testaceous; metathorax nitidulous and nearly smooth, with complete areae and lateral pubescence; basal area elongate and entire; areola diamond-shaped, longer than broad, apically acute, emitting strong costulae slightly before its centre; petiolar area discreted, not reaching metathoracic centre and pale testaceous throughout; lateral carinae strong, spiracles circular and not small. Scutellum convex, neither small nor laterally margined, very finely punctate, shining and testaceous with apex mutic, its base and glabrous basal fovea black. Abdomen fusiform with first segment narrowly before the base, second except basally and third except apically, luteous; postpetiole explanate, smooth, longitudinally impressed centrally and as long as the stout and black terebra, or fully a third of the abdominal length. Legs stout and pale testaceous with both extremities of the stramineous-white hind tibiae definitely, their coxae discally in the centre, and femora indefinitely, black; inner hind calcar two-thirds metatarsal length and distinctly longer than the outer. Wings hyaline, somewhat broad; radix whitish, stigma and nervures nigrescent; basal nervure continuous, and the upper curved radial cell broad; areolet large, obliquely quadrate and distinctly sessile, emitting recurrent nervure before its centre; discoidal cell basally subacute; nervellus opposite, straight and not intercepted. Length, 3 mm. ♀ only.

M'fongosi in Zululand during May 1917, by W. E. Jones. It is most closely allied to *M. pictilis*, Holmgr., though with the cheeks neither elongate nor striate.